How **good** is our **school?**

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SELF-EVALUATION SERIES

Using ICT in **Learning and Teaching**

HMIe

improving Scottish education

Using ICT in **Learning and Teaching**

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HM Inspectorate of Education
Astron BXXXXX 09/04

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Introduction

The revised edition of *How good is our school?* (HM Inspectorate of Education 2002) has been widely welcomed in schools and authorities. This document is one of a series of guides to self-evaluation which builds on the advice given in *How good is our school?*

The materials are designed for staff who have responsibilities relating to the management and delivery of learning and teaching.

The introductory publication to the series, *Planning for Improvement,* outlines how you can use the outcomes of self-evaluation to plan effectively for improvement. This guide can be used when you are ready to evaluate how well your school is using information and communications technology (ICT) within learning and teaching. It shows how you can select a cluster of quality indicators that focus on key features which can have a significant impact on the achievement and experience of pupils.

This guide provides a series of generic key questions about the use of ICT in learning and teaching. In addition to the generic questions, the interactive version of the guide on the accompanying CD-ROM also includes hyperlinks to prompts for individual curriculum areas and subjects. You may wish to refer to these prompts when considering the key questions in the context of your own work. The application of ICT to cross-cutting issues such as citizenship, enterprise and health is addressed in the specific self-evaluation guides and CD-ROM resources relating to those topics.

Effective quality assurance is needed to ensure that using ICT leads to educational gains for all learners. ICT offers real opportunities for you to make lasting improvements to learning and teaching. While it is an essential tool for learning across the curriculum, teachers will use it in different ways in different curricular areas. This guide will help teachers and managers to evaluate how well they integrate the use of ICT into learning and teaching and ensure an overall balance in the range of approaches used in the classroom.

Effective teachers:

- use ICT selectively and appropriately to enliven the teaching process, to motivate pupils and to achieve positive attitudes to learning;
- provide pupils with good opportunities to take responsibility for their own learning, both in small groups and individually;
- identify aspects of coursework where pupils' individual needs can be met more effectively through the appropriate use of ICT; and
- use their ICT skills to access the wealth of resources now available online.

Increasingly, schools will also want to develop ICT solutions that provide diagnostic and learning support and consolidation and extension resources to meet a range of needs across the curriculum.

The use of ICT has developed in different ways to meet the needs of learners in different curricular areas. The use of ICT can:

- help learners be creative;
- be a useful aid to problem solving;
- provide ready access to a world of knowledge and research; and
- improve the quality of presentation.

Effective teachers use the power of ICT to promote the uniqueness of the content and skills relating to particular curricular areas. They have a clear understanding of the learning process as it relates to that area, and are confident that the technology will help them to improve pupils' attainment and capacity to learn. They assess the impact on pupils' achievement of using ICT to ensure that it adds value to the learning and teaching process.

Schools recognise the need to provide all learners with the skills to use ICT independently to promote their lifelong learning. Effective schools plan the teaching contexts in which ICT skills will be delivered. While these may vary from school to school and course to course, all pupils should be taught the skills they need. This guide provides advice on auditing the contribution of ICT to different curricular areas so that the skills taught in discrete courses and programmes complement those covered in other contexts across the curriculum, and vice versa. Careful curriculum auditing and planning are essential to achieve this blend and overall balance, irrespective of the programmes followed by individual pupils. Through this auditing schools will be better placed to provide regular opportunities for the consolidation and practice of transferable ICT skills so that learners are well equipped to adapt in an ever-changing world of learning.

Effective school managers recognise the challenge that managing ICT across the curriculum poses, in managing complicated change, ensuring that the ICT skills of individual members of staff are kept up-to-date and in strategic planning. Effective managers:

- embed the use of ICT by developing and promoting a vision for the application and integration of the use of ICT across the curriculum;
- are willing to consider relevant re-structuring of approaches to learning and teaching;
- provide appropriate professional development in the use of ICT for all staff;

- are seen to be involved in the use of ICT as learners;
- use a range of management information systems for organisation and improvement;
- provide staff with appropriate personal access to technology;
- acquire a suitable range of ICT resources and allocate them appropriately to ensure sustainability;
- ensure access to technical support;
- include the day-to-day responsibilities for ICT in the overall management arrangements of the school, including promoting a 'street-wise' awareness of safe and unsafe practices; and
- establish a rolling programme for the maintenance and renewal of ICT resources.

Effective consultation with stakeholders is essential to ensure that curricular needs are fully met through the allocation of appropriate ICT resources, which are likely to be different across curricular areas.

Many schools recognise the power of ICT to promote learning, both in improving their current practice, and responding to our developing awareness as to how, and at what pace, pupils learn, and the skills they need for effective learning. The content of some curricular areas, and the skills required to study within them, may also be evolving. There is increasing evidence that by increasing the pace of learning, and motivation among pupils and teachers, the use of ICT can also contribute to raising standards of achievement. The use of ICT:

- encourages pupils to collaborate with one another and take responsibility for their own learning;
- helps to nurture individual talent, independence and a strong sense of self-worth and confidence;
- encourages pupils to use their imaginations and promotes creativity; and
- develops enquiry and communication skills and creates appropriate contexts for critical thinking, decision making and problem solving activities.

To assist schools in evaluating how effectively they are using ICT, six quality indicators (QIs) from the revised edition of *How good is our school?* have been chosen. They will help you to evaluate:

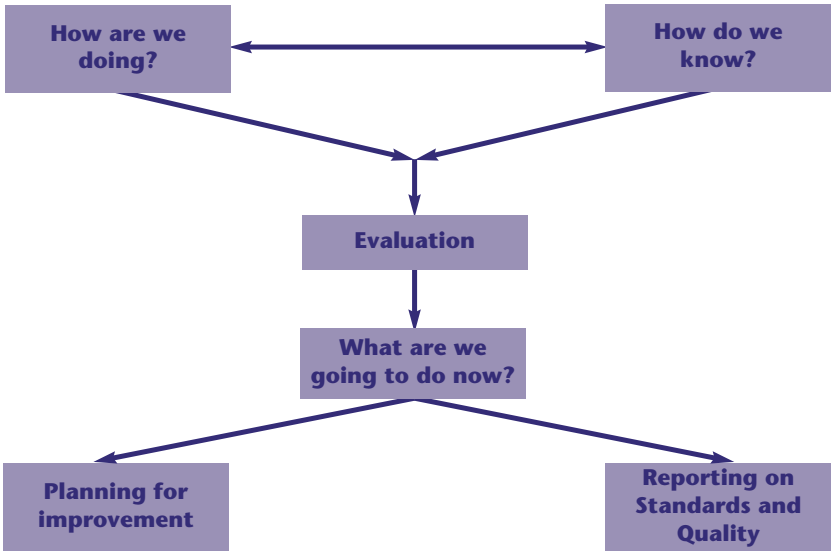
- the extent to which the use of ICT enlivens the teaching process, encourages positive attitudes to learning, and increases the pace and depth of learning;
- whether it provides pupils with appropriate opportunities to take responsibility for their own learning, both in small groups and individually;
- whether teachers have identified aspects of coursework in which pupils' individual needs can be met more effectively through the appropriate use of ICT;
- how well ICT resources are used to provide diagnostic support, support for learning and consolidation and extension tasks within curricular areas;
- whether all staff have a clear, shared understanding of how ICT can be used to improve pupils' attainment within curricular areas;
- the extent to which the school needs to carry out a further audit of the steps taken across the curriculum to ensure the development of pupils' skills in ICT, in particular to ensure that any discrete courses in ICT skills complement pupils' ICT-based coursework in a wide range of subjects; and
- the appropriateness and accessibility of ICT facilities.

Self-Evaluation in Practice

Part 2 of *How good is our school?* provides all the practical help you need to evaluate the quality of education provided in your school. This guide:

- shows how the effective use of ICT in learning and teaching can improve the quality of pupils' experience;
- summarises the key issues relating to developing the use of ICT in learning and teaching, with reference to important sources of advice;
- shows how you might reflect these issues in key questions which derive from the level 4 illustration of the quality indicators chosen;
- offers a structure to help you to collect evidence from more than one source to provide a robust basis for your evaluations; and
- encourages you to weigh up the strengths and areas for improvement in what you observe, in order to come to an overall evaluation of the quality of provision in your school.

You can then use the evaluation and the evidence to plan for improvement and to report on the standards and quality of what you have found.



Using this approach helps you to carry out a quick survey of the effectiveness with which ICT is used in learning and teaching. This guide provides you with formats which you can use as they stand or adapt for your own school. You can also download them as blank templates from the HMIE website. Each QI template includes hyperlinks to further exemplification for specific curricular areas, which you can access when using the CD-ROM, or through the HMIE website.

Use this page alongside pages 15 and 16 of *How good is our school?*

Note down the sources of evidence on which you are basing your evaluation in the boxes below.

People consulted:

Documentation and resources reviewed:

Direct observation undertaken:

Data analysed:

Fill in your record of the strengths and areas for improvement for each of the quality indicators using the grids on the following pages.

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In the box below, note the overall evaluation for each of the quality indicators using the 1–4 scale from How good is our school?.

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Key question	Quality indicator	Overall evaluation
To what extent does the curriculum provide appropriate opportunities for all learners to acquire ICT skills?	1.1	
How effectively do all subjects and curriculum areas teach and use ICT?	1.2	
To what extent is teaching enhanced through the use of ICT?	3.2	
To what extent is learning enhanced through the use of ICT?	3.3	
How effectively are learners' needs met through the use of ICT?	3.4	
How effective is staff development in improving teachers' ICT skills?	6.6	

↓

Go back over the areas for improvement you have identified.

↓

Decide which are your priorities for development.

↓

Identify criteria for success by which to judge progress after you have taken action.

↓

These priorities for improving the use of ICT in learning and teaching can now be included in your development plan.

QI 1.1: Structure of the Curriculum

This quality indicator is concerned with the following themes:

- *breadth and balance across elements of the curriculum*
- *integration, permeation*
- *timetabling and arrangements for pupil choice*

Questions to ask	Curriculum Areas	Evidence	
		Strengths	Areas for improvement
• To what extent has your school identified appropriate expectations for the acquisition of ICT skills at different stages? • To what extent does the curriculum provide effective opportunities for all pupils to acquire an appropriate range of ICT skills? • To what extent do all pupils' curricular programmes ensure the progressive and coherent development of ICT skills? • To what extent has your school audited the complementary impacts made by specific curricular areas to the overall development of pupils' ICT skills, including regular opportunities to practise them?	**Art and design** **Business education subjects** **Biology and science** **Chemistry and science** **English, English as an additional language and drama** **Geography** **Geology** **History** **Home economics** **ICT and computing** **Mathematics** **Modern foreign languages and Gaelic** **Modern studies and People in Society** **Music** **Personal and social development** **Physical education** **Physics and science** **Religious and moral education** **Technology**		

QI 1.2: Courses and programmes

This quality indicator is concerned with the following themes:

- *breadth, balance and choice*
- *integration, continuity and progression*
- *support and guidance for teachers*

Questions to ask	Curriculum Areas	Evidence	
		Strengths	Areas for improvement
• To what extent do curricular programmes set out a clear framework for the systematic teaching of specific relevant ICT skills? • To what extent do programmes ensure that all pupils have regular opportunities to practise and use the specific ICT skills relevant to the subject or curriculum area? • To what extent do discrete courses in developing ICT skills link to and draw from a range of curricular areas? • How good is the advice to staff on developing pupils' ICT skills within specific curricular areas? • To what extent do programmes take account of pupils' prior skill levels and encourage continuity and progression across primary and secondary schools?	**Art and design** **Business education subjects** **Biology and science** **Chemistry and science** **English, English as an additional language and drama** **Geography** **Geology** **History** **Home economics** **ICT and computing** **Mathematics** **Modern foreign languages and Gaelic** **Modern studies and People in Society** **Music** **Personal and social development** **Physical education** **Physics and science** **Religious and moral education** **Technology**		

QI 3.2: The teaching process

This quality indicator is concerned with the following themes:

- *range and appropriateness of teaching approaches*
- *teacher-pupil interaction*
- *clarity and purposefulness of questioning*

Questions to ask	Curriculum Areas	Evidence	
		Strengths	Areas for improvement
• To what extent do teachers use appropriate blends of approaches, which include the use of ICT, where appropriate? • To what extent are pupils encouraged to use school and other websites as part of their homework and to aid revision? • How well organised are ICT resources so that both teachers and pupils have ready access? • To what extent are teachers aware and making use of appropriate safe user protocols, including protocols for access to the Internet? • To what extent do teachers demonstrate ICT skills relevant to a specific curricular context? • To what extent can teachers access immediate and effective technical support so that the flow of learning and teaching can be maintained when problems with ICT occur? • How good are teachers at engaging pupils in challenging and stimulating discussion about their use of ICT to ensure that their skills are developing to their maximum potential?	**Art and design** **Business education subjects** **Biology and science** **Chemistry and science** **English, English as an additional language and drama** **Geography** **Geology** **History** **Home economics** **ICT and computing** **Mathematics** **Modern foreign languages and Gaelic** **Modern studies and People in Society** **Music** **Personal and social development** **Physical education** **Physics and science** **Religious and moral education** **Technology**		

QI 3.3 Pupils' learning experiences

This quality indicator is concerned with the following themes:

- *extent to which the learning environment stimulates and motivates pupils*
- *pace of learning*
- *personal responsibility for learning, independent thinking and active involvement in learning*
- *interaction with others*

Questions to ask	Curriculum Areas	Evidence	
		Strengths	Areas for improvement
• To what extent does the use of ICT stimulate pupils and increase their motivation in the curricular area? • To what extent has the use of ICT increased the pace of learning for individuals and groups of pupils? • How responsive and self confident are pupils when offered opportunities to use ICT independently, or in groups? • How good are pupils at helping each other to develop skills in ICT? • How effectively is ICT used to make pupils independent and collaborative learners?	**Art and design** **Business education subjects** **Biology and science** **Chemistry and science** **English, English as an additional language and drama** **Geography** **Geology** **History** **Home economics** **ICT and computing** **Mathematics** **Modern foreign languages and Gaelic** **Modern studies and People in Society** **Music** **Personal and social development** **Physical education** **Physics and science** **Religious and moral education** **Technology**		

QI 3.4 Meeting pupils' needs

This quality indicator is concerned with the following themes:

- *choice of tasks, activities and resources*
- *provision for pupils with differing abilities and aptitudes*
- *identification of learning needs*

Questions to ask	Curriculum Areas	Evidence	
		Strengths	Areas for improvement
• To what extent does the use of ICT reduce barriers to learning for individuals and groups of pupils? • How well does your school support pupils who have limited access to ICT outwith the school? • To what extent does the use of ICT help individual pupils to build on their ICT skills, including those acquired outside of school, and work at appropriate levels of pace and challenge? • How well does your school use ICT to help teachers and pupils to identify specific learning needs and set individual targets? • To what extent do pupils have access to ICT facilities, which have been adapted as necessary and matched effectively to their specific needs?	**Art and design** **Business education subjects** **Biology and science** **Chemistry and science** **English, English as an additional language and drama** **Geography** **Geology** **History** **Home economics** **ICT and computing** **Mathematics** **Modern foreign languages and Gaelic** **Modern studies and People in Society** **Music** **Personal and social development** **Physical education** **Physics and science** **Religious and moral education** **Technology**		

QI 6.6 Staff review and development

This quality indicator is concerned with the following themes:

- *links between staff review and development and school self-evaluation and planning*
- *staff review procedures*
- *staff development*

Questions to ask	Curriculum Areas	Evidence	
		Strengths	Areas for improvement
• To what extent have senior managers ensured that all staff are equipped with the necessary skills in the use of ICT, thus demonstrating their commitment? • To what extent is this commitment reflected in the school's plans for improvement and staff development programme? • To what extent does staff review involve active consideration of the needs of each member of staff in relation to ICT? • How effective are your school's arrangements for helping all staff who lack confidence with ICT to gain the necessary skills? • To what extent does staff development focus on developing an effective blend of learning and teaching approaches which includes the use of ICT as appropriate to specific curricular areas? • To what extent are teachers aware of current resources and best practice in the use of ICT to support learning in particular curricular areas? • How good is your school at making best use of the expertise of its own staff and local and national expertise in sharing and developing best practice? • How do you evaluate the impact of the training provided for staff on pupils' learning experiences?	**Art and design** **Business education subjects** **Biology and science** **Chemistry and science** **English, English as an additional language and drama** **Geography** **Geology** **History** **Home economics** **ICT and computing** **Mathematics** **Modern foreign languages and Gaelic** **Modern studies and People in Society** **Music** **Personal and social development** **Physical education** **Physics and science** **Religious and moral education** **Technology**		

Sources of support

You can find information about a wide range of current publications on the HMIE website: www.scotland.gov.uk/hmie. This site also provides links to a range of other educational organisations. Other relevant websites include:

- www.LTScotland.com – Learning and Teaching Scotland
- www.nationalpriorities.org.uk/NPFP.html – National Priorities
- www.ngflscotland.gov.uk – The National Grid for Learning
- www.scotland.gov.uk/who/dept_education.asp – Scottish Executive Education Department
- British Educational Communications and Technology Agency (BECTa) – www.becta.org.uk

Acknowledgements

Thanks are due to staff from the following schools and education authorities who offered valuable insights and comments during the development of the guide.

Carlogie Primary School, Angus Council
Dunbarney Primary School, Perth and Kinross Council
Gairloch High School, Highland Council
Inveralmond Community High School, West Lothian Council
Kingspark School, Dundee City Council
Tobermory High School, Argyll and Bute Council
East Ayrshire Council

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ISBN 0-7053-1053-1

9 780705 310536

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